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C three groups. A group is the degree of coronary stenosis in 50% patients with a total of 108 cases. B group is the degree of coronary stenosis in patients with a total of 180 cases of 50%-70%. C group is the degree of coronary stenosis in 70% groups of patients with a total of 224 cases. Statistics of three groups of patients with clinical data and blood lipid levels, including apolipoprotein A I (apo A I), apolipoprotein B (apo B), apo A I / apo B analysis of the correlation between degree of the blood lipid and coronary artery stenosis.

Results: Compared between patients of group A and group B, apolipoprotein B (apo B) or apo A I / apo B was statistically significant (P<0.05). Apolipoprotein A I (apo A I) is no statistical significance between the two groups. The mean level Apo B in B group increased than in A group, the mean level apo A I / apo B in A group increased than in B group.

Compared between patients of group A and group C, Apolipoprotein A I (apo apo A I), apolipoprotein B (apo B) or apo A I / apo B is all statistically significant (P<0.05). The mean level Apo B in C group increased than in A group. The mean level of apo A Iand apo A I / apo B in A group increase than in the C group;

Compared between patients of group B and group C, Apolipoprotein A I (apo apo A I), apolipoprotein B (apo B) or apo A I / apo B is all statistically significant (P<0.05). The mean level Apo B in C group increased than in B group. The mean level apo A I and apo A I / apo B in B group increase than in the C group;

With the severity of coronary stenosis as the dependent variable, apo A I, apo B, apo A I / apo B as argument, the three are related with the degree of coronary artery stenosis by the method of multivariate regression analysis. The degree of apo B is positive correlation with coronary artery stenosis; apo A Iand apo A I / apo B are negatively related to coronary artery stenosis. By the correlation coefficient, apo A I / apo B can be found most closely relationship between the degree of coronary stenosis and the following is apo A I, apo B.

Conclusions: With the severity of coronary stenosis, apo B increases, while apo A Iand A I / apo B decrease. Apo A I / apo B correlation with coronary artery stenosis is the most close, followed by apo A I, apo B.

GW25-e0425

Polymorphisms in the BUD13 homolog and zinc finger protein 259 genes are associated with the risk of hyperlipidemia

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Objectives: The single nucleotide polymorphisms (SNPs) in the BUD13 homolog (BUD13) and zinc finger protein 259 (ZNF259) genes have been associated with one or more serum lipid parameters in the European populations. However, little is known about such association in the Chinese populations. The present study was undertaken to detect the association of 6 BUD13/ZNF259 SNPs and their haplotypes with hyperlipidemia and to identify the possible gene-gene interactions among these SNPs.

Methods: Genotyping of BUD13 237+1741T>C (rs10790162), 323-575A>G (rs17119975), *147C>T (rs11556024), 64G>T (rs35585096) and ZNF259 1093-336G>A (rs2075290) and *365+359C>G (rs964184) SNPs was performed in 634 hyperlipidemic (TC>5.17 mmol/L and/or TG>1.70 mmol/L) and 547 normolipidaemic individuals. Pair-wise linkage disequilibria and haplotype frequencies among the SNPs were analyzed using Haploview. The association between genotypes and serum lipid parameters was tested by analysis of covariance. Any variants associated with the serum lipid parameter at a value of P<0.008 (corresponding to P<0.05 after adjusting for six independent tests by the Bonferroni correction) were considered statistically significant. Unconditional logistic regression was used to assess the correlation between the risk of hyperlipidemia and genotypes. The inter-locus interaction was analyzed by generalized multifactor dimensionality reduction method. A sign test or a permutation test provides P value for predicting accuracy to measure the significance of an identified model. The best model is selected as the combination of marker with maximum cross-validation consistency and minimum prediction error.

Results: The genotype distribution of all 6 SNPs agreed with Hardy-Weinberg equilibrium (P>0.05 for all). A significant linkage disequilibrium was noted among the ZNF259 rs2075290, ZNF259 rs964184 and BUD13 rs10790162 SNPs (r^2>0.5, P<0.001). The SNPs of ZNF259 rs2075290, ZNF259 rs964184 and BUD13 rs10790162 were significantly associated with serum lipid levels in both hyperlipidemic and normolipidaemic populations (P<0.008-0.001). On single locus analysis, only BUD13 rs10790162 was associated with hyperlipidemia (OR: 2.23, 95% CI 1.05, 4.75, P=0.015). The haplotype of A-C-A-G-C-C (in the order of the rs2075290, rs964184, rs10790162, rs17119975, rs11556024 and rs35585096 SNPs) was the commonest haplotype and represented approximately 50% of the sample. The haplotype of G-G-A-A-C-C, carrying rs964184-G-allele, was associated with increased risk of hypercholesterolemia (OR: 1.35, 95% CI 1.10, 1.66, P=0.005) and hypertriglyceridemia (OR: 1.75, 95% CI 1.39, 2.21, P=0.000). The haplotypes of A-C-G-G-C-C and A-C-A-G-T-C, carrying rs964184-C-allele, were associated with reduced risk of hypercholesterolemia (OR: 0.77, 95% CI 0.61, 0.99, P=0.039 and OR: 0.66, 95% CI 0.47, 0.94, P=0.021, respectively). On multifactor dimensionality reduction analyses, the two-to-three locus models showed a significant association with hypercholesterolemia and hypertriglyceridemia (P<0.01-0.001).

Conclusions: The SNPs in the BUD13/ZNF259 in the European populations are also replicable in the Chinese populations. In addition, inter-locus interactions may exist among these SNPs. However, further functional studies are still required to clarify how these SNPs and genes actually affect the serum lipid levels.

GW25-e0066

Excessive level of postprandial plasma glucose damage autonomic cardiovascular function and cardiac structure and function in elderly essential hypertensives

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Objectives: To explore the association between postprandial plasma glucose and autonomic cardiovascular function and cardiac structure and function in elderly essential hypertensives.

Methods: Oral glucose tolerance test were performed in 257 elderly essential hypertensives who were eligible recruited from health examination center affiliated to Institute of Basic Medicine, Shandong Academy of Medical Sciences. According to the results of oral glucose tolerance test, participants were divided into three groups, namely, normal postprandial plasma glucose group, high postprandial plasma glucose group and diabetes group. All participants were conducted physical examination, 24h ambulatory electrocardiogram, echocardiogram and blood test. Written informed consent was obtained from each patient.

Results: In normal postprandial plasma glucose group, high postprandial plasma glucose group and diabetes group, turbulence onset (TO) was -1.61±1.74%, -0.85±1.27%, and 0.16±0.91%, respectively; total premature ventricular contraction of 24-hour was 146.8±106.2, 302.2±200.6, and 347.7±233.6, respectively; turbulence slope (TS) was 10.36±5.59 mm/RR, 6.92±2.88 mm/RR, and 4.31±1.24 mm/RR, respectively; the standard deviations of all normal RR intervals (SDNN) was 98.54±22.83 ms, 87.40±24.74 ms, and 79.85±20.92 ms, respectively; the end systolic diameters of left ventricle (LVESD) was 25.36±2.28 mm, 26.33±2.07 mm, and 27.86±2.13 mm, respectively; fractional shortening of the left ventricular minor semi axis (LVFS) was 45.18±4.34%, 43.36±4.14%, and 39.11±4.53%, respectively; interventricular septum thickness (IVST) was 9.11±0.86 mm, 9.57±1.12 mm, and 9.96±1.32 mm, respectively; left ventricular posterior wall thickness (LVPWT) was 9.06±1.03 mm, 9.17±1.05 mm, and 9.48±1.14 mm, respectively; left ventricular ejection fraction (LVEF) was 64.59±2.96%, 59.02±3.12%, and 51.25±3.04%, respectively; ratio of E/A was 1.14±0.20, 1.07±0.23, and 0.93±0.31, respectively; Tei index was 0.34±0.09, 0.39±0.10, and 0.44±0.10, respectively. Compared to normal postprandial plasma glucose group, TO, total premature ventricular contraction of 24-hour, LVESD, LVFS, IVST and Tei index were markedly elevated, and TS, SDNN, LVEF, and ratio of E/A were significantly decreased in high postprandial plasma glucose group and diabetes group (P<0.01). TO, LVESD, LVPWT, and Tei index were significantly higher, and TS, LVEF, and ratio of E/A were significantly lower in diabetes group compared with high postprandial plasma glucose group (P<0.01). Results of correlation analysis and multivariate linear regression analysis showed that level of postprandial plasma glucose markedly positively related to TO, total premature ventricular contraction of 24-hour, LVESD, IVST, LVPWT, A peak, and Tei index (r=0.422, 0.305, 0.418, 0.386, 0.285, 0.242, and 0.440, P<0.01, respectively), and negatively related to TS, SDNN, LVFS, LVET, E peak and ratio of E/A (r=-0.426, -0.358, -0.444, -0.326, -0.284 and -0.403, P<0.01, respectively).

Conclusions: Excessive level of postprandial plasma glucose damage autonomic cardiovascular function and cardiac structure and function in elderly essential hypertensives.

GW25-e1622

Cardiovascular inflammatory factors changes in patients with rheumatoid arthritis and intervention of atorvastatin

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Objectives: To observe the changes of cardiovascular inflammatory factors and to investigate the effect of atorvastatin therapy on inflammation in patients with rheumatoid arthritis (RA).

Methods: This study included 69 patients with RA, they were randomly divided into group A (n=36) and group B (n=33). All patients received methotrexate (MTX0.2 mg/kg/w, plus prednisone 10 mg /d) and stable doses of NSAID therapy. Group A plus atorvastatin therapy (20 mg/d) on the basis of the above treatment. Sixteen healthy individuals of similar age and sex served as controls. Disease activity, lipid profile, C-creative protein, serum tumor necrosis factor-α (TNF-α), adiponectin were measured before and after 3 months of treatment.

Results: Atorvastatin combined with MTX therapy significantly reduced serum total cholesterol, low-density lipoprotein cholesterol, and triglycerides, TC/HDL-C, LDL-C/HDL-C, and increased high-density lipoprotein cholesterol. Disease activity variables, C-creative protein, TNF-α, and adiponectin were significantly improved by the drug combinations.

Conclusions: Atorvastatin therapy in patients with RA reduced disease activity and conventional and novel vascular risk factors that promote the atheromatous lesion. Their possible mechanism may be benifited by the anti-inflammatory, the control of lipid, antioxidative stress, protecting vascular endothelium.